SUMMARY FOR FE-14-02
SELECTED AND POSSIBLE CONTRIBUTING FACTORS

SELECTED FACTORS

Railroad: Union Pacific Railroad Company
Location: Walcot, Wyoming
Region: 8

Month: June
Date: June 5, 2002
Time: 1:29 p.m., MST

Data for Fatally Injured Employee(s)

System Laborer
43 years old
23 years of service
Last rules training: March 9, 2001
Last safety training: Oct. 2, 2001
Last physical: Oct. 30, 1993

Data for All Employees (Craft, Positions, Activity)

Craft: Maintenance of Way

Positions:

UP Distribution Gang 9091
Foreman
Assistant Foreman
Fatally injured System Laborer
Other System Laborer

Assistant Signal Foreman

Train ZRODV-05
Engineer
Conductor

Dispatcher

Activity: Marking track ties.

SUMMARY FOR FE-14-02 CONTINUED

SELECTED FACTORS CONTINUED

EVENT

A System Laborer was fatally injured when struck by a train while on an assignment to mark track ties.

POSSIBLE CONTRIBUTING FACTORS

PCF No. 1

The eastbound train struck and fatally injured the System Laborer as he was standing in the middle of the track, in non-compliance with railroad safety rules.

PCF No. 2

The investigation revealed that at the time of the incident, the gang involved was working without track and time protection. They were using individual train detection, an inadequate safety measure for their work.

PCF No. 3

Earlier in the day, after the Assistant Foreman had reviewed the two Laborers' Statement of On-Track Safety forms, he asked them to correct erroneous mile post limits. The fatally injured System Laborer failed to make the correction. By following the erroneous information, he proceeded in the wrong direction away from his gang members. Just prior to the incident, the Assistant Foreman tried to get his attention by yelling and waving his arms, but the fatally injured Laborer was too far away.

PCF No. 4

The fatally injured System Laborer's view of the oncoming eastbound train which struck him was obscured by the westbound train which was passing him just prior to the incident. In non-compliance with railroad safety rules, the Laborer was standing on an adjacent track when the westbound train passed.

PCF No. 5

The investigation revealed that the lone worker group had no portable radios with them in non-compliance with Federal regulations.

REPORT: **FE-14-2002**

RAILROAD: Union Pacific Railroad Company (UP)

LOCATION: Walcot, Wyoming

DAY & TIME: June 5, 2002; Approximately 1:29 p.m., MST

EVENT[1]: A System Laborer was fatally injured when struck by a train while on an assignment to mark track ties.

EMPLOYEE:

Craft:	Maintenance of Way (MOW)
Activity:	Marking track ties
Occupation:	System Laborer
Age:	43 years old
Length of Service:	23 years
Last Rules Training:	March 9, 2001
Last Safety Training:	Oct. 2, 2001
Last Physical:	Oct. 30, 1993

CIRCUMSTANCES PRIOR TO THE ACCIDENT

On June 05, 2002, UP Distribution Gang 9091 started the day at the First Inn in Laramie, Wyoming. This gang comprised a Foreman, an Assistant Foreman, the fatally injured System Laborer, and another Laborer. The Foreman held a job briefing with the men at 6:50 a.m. He told them that he was informed by the railroad that they would not get the work train for the day to unload track ties as planned, so they would mark ties instead. The Foreman decided to go to Walcot, Wyoming and mark ties around mile post 658.0. He also mentioned that they were low on paint and would need more.

They discussed "Red Zones" (i.e. adequate spacing between machines and between machines and roadway workers to prevent personal injury) and talked about what type of protection they would use for the day. They talked about using either a Watchman Lookout or Individual Train Detection, and agreed they would decide which would work better when they got to the job site. They also discussed problems they were having with the gang truck. The Foreman told them that he would remain behind

---

[1] "Event" is defined as "occurrence that immediately precedes and directly results in the fatality." Possible contributing factors are identified in the following report and attached summary.

and check on cars, do computer work, and order paint. He told them to stay close together and that there was no hurry as they were way ahead of the Tie Gang. He said that they would be under the direction of the Assistant Foreman and told them to make sure to have another job briefing when they arrived at the work location. The Foreman said that if they used Individual Train Detection when they marked ties, each man should spread out a mile apart. He told them to be sure their Statement of On-Track Safety forms were filled out and to stay alert.

Through the accident area, UP operated trains east and west over two adjacent main tracks controlled by signal indications of a centralized traffic control system, supplemented by an automatic cab signal/automatic train stop system. The two main tracks were generally about 13'6" from one another, as measured from track center to track center, and the terrain was gradually ascending toward the east. In an eastward direction, there was a sweeping left hand curve, then tangent track for approximately 3,000 feet to the point of the accident and in excess of 3,000 feet beyond. Total site distance for the crew of an eastbound train to the point of the accident was measured at 4,704 feet.

The three members of the gang proceeded out to the job site at Walco, mile post 664.0, and upon arriving at about 9:30 a.m., they had another job briefing. The Assistant Foreman held this briefing and said they would be marking ties all day. He told the laborers how they could "leap frog" around each other to get the job done easier and that the last guy would move the truck up. He said they would work 1/4 miles apart from each other and would use Individual Train Detection for their on-track safety. They would be working on Track No. 2 (the south track) and would be clear for all trains traveling on either track. They would clear on the south side of the tracks so they wouldn't have to cross over Track No. 1 (the north track).

Gang members proceeded to fill out their Statement of On-Track Safety Forms. The Assistant Signal Foreman said they were still in the truck, and he was seated in the front seat on the passenger side. The uninjured Laborer was seated to his left behind the wheel and the fatally injured Laborer was in the back seat. He had them mark the box for 70 mph train speed. He gave them the limits they would be working and asked if they understood. The Assistant Foreman said that the uninjured Laborer then gave the fatally injured Laborer his form to check, and while this was happening, he noticed a mistake in the mile posts copied. The limits should have read mile post 656.0 to 667.0, but both the fatally injured Laborer's and the uninjured Laborer's read 656.0 to 567.0. The Assistant Foreman told them the correct limits and told them to correct their copies. He said they both indicated that they would make the change.

At the time of the incident, the weather was clear, with the wind out of the west. The temperature was about 75° F, and visibility was unrestricted.

THE ACCIDENT

The gang began working at about 10 a.m. Prior to the incident, the Assistant Foreman dropped the uninjured Laborer off at mile post 696.75, then dropped the fatally injured Laborer off at mile post 660.25. He then took the truck to mile post 660.00 and got out, went to Track No. 2, and they all began marking ties walking westward. At about 1:25 p.m., all three men noticed a westbound train, Train CP ASV-03, an empty coal train, approaching on Track No. 1. The whistle on the train was

sounding continuously, and the bell was ringing. They all cleared on the south side of the tracks. The two surviving members of the gang estimated that this train passed them at about 45 mph.

At about 1:29 p.m., the westbound train had passed both the Assistant Foreman and the uninjured Laborer. The uninjured Laborer stayed off the track and was shaking up some paint while the Assistant Foreman walked back to Track No. 2 and again began marking ties, working west. The fatally injured Laborer, however, had returned to Track No. 2 before the westbound train was completely by him on Track No. 1 and proceeded to walk east to remark the ties that he had marked prior to the westbound train's arrival.

An eastbound train, Train ZRODV-05, approached the gang at a recorded speed of 55 mph and a sight distance of about 4,704 feet. As it approached mile post 660.25, the Engineer noticed a roadway worker on the track. The worker was wearing a reflectorized vest and hard hat. When the train was about 2,535 feet away, the Engineer began blowing the whistle. At about 906 feet, the Engineer realized that the worker was not going to get out of the way and put the train in emergency. At this time, the Assistant Foreman noticed that the fatally injured Laborer was on the track and was walking east with his back to the eastbound train. He began yelling and waving his arms, attempting to get his attention, but was too far away.

The eastbound train struck the fatally injured Laborer as he was standing in the middle of the track and sucked him under the cow catcher. The fatally injured Laborer was dragged under the train for 167 feet. The train proceeded about 980 feet after the impact before it came to a stop. The train crew immediately called emergency response. The victim's body was found by the Assistant Foreman, the uninjured Laborer, and the Conductor of Train ZRODV-05.

POST-ACCIDENT INVESTIGATION

Immediately after the accident, the Engineer called the Dispatcher and got a response right away. The Assistant Foreman and the uninjured Laborer responded first. They went back with the Conductor and found that the man was dead. The body was about 980 feet back from the head end of the train. Later, the medical technicians from Hanna arrived, then the Highway Patrol Lieutenant and Carbon County Sheriff, followed by the Coroner. An Operating Practices Manager (MOP) was the first UP Manager on the scene, followed by another MOP , the Director of Road Operations (DRO), and the Superintendent. They all came from Cheyenne, Wyoming. Some gang foremen were also there.

Upon the arrival at the incident scene, at about 2:29 p.m., the Carbon County Sheriff conducted an on-site investigation and interview of the victim's co-workers. At the scene, no FRA mandatory toxicological tests were performed. The deceased was later transported to the Rostad Mortuary in Rawlings, Wyoming, where an autopsy was performed the same day. Blood samples collected from the deceased were sent to the crime lab for alcohol and drug screening.

An FRA Track Inspector arrived at the scene at about 7 p.m. on the day of the accident and initiated an investigation. He interviewed the UP personnel involved at the scene for information. Later, an FRA S&TC inspector proceeding from Scottsbluff, Nebraska, joined him in the investigation. On the way to the accident scene, the S&TC Inspector contacted the UP DRO and asked him to gather available

information for the incident. At the scene, the S&TC Inspector requested that the Superintendent hold a round table meeting at his office in Cheyenne the next day for further investigation. That night an FRA OP Inspector proceeded to Cheyenne from Denver, Colorado to interview the train crew members involved. Upon his arrival at the UP Yard Office, he found that the UP personnel (correctly believing that this incident and the resultant fatality did not meet the criteria requiring FRA post-accident toxicological testing since a major category train accident was not involved), had released the train crew prior to the expiration of their hours of service. The railroad met the criteria of a "fatal train incident," rather than "major category train accident" level, and accordingly, after the railroad supervisor had investigated and determined whether the train crew had any involvement in the cause or severity of the incident, the crew was allowed to rest.

The next morning, the three FRA Inspectors all attended a meeting with the UP Officials in the Superintendent's Office in Cheyenne where they obtained and reviewed more information related to the incident. That same day, the OP Inspector interviewed the train crew members involved via the telephone.

In Omaha, Nebraska, an FRA OP Inspector contacted UP Officials and obtained information related to the incident that the FRA Inspectors were unable to obtain from the UP Field Officials. On Monday, June 11, 2002, an FRA OP Inspector interviewed the on-duty Dispatcher who was on duty at the time of the incident and obtained the "Dispatcher voice tapes." On June 20, 2002, the S&TC Inspector contacted the Carbon County Sheriff in Rawlings and UP Officials to request more information related to the incident.

The investigation revealed that at the time of the incident, the gang involved was working without a "Form B"or "Track and Time" protection. Individual Train Detection was the only form of on-track safety protection they were using while performing their duties. The employees' Statement of On-Track Safety forms showed that the uninjured Laborer made the previously mentioned necessary correction on the mile post limits, but the fatally injured Laborer never did. Field investigation also revealed that the lone worker group had no portable radios with them. The only working radio the gang had with them was in the gang truck, and it was not available or accessible to them because they were too far from the truck.

The evidence at the incident scene would indicate that the fatally injured Laborer was marking ties on the north rail of Track No. 2, walking in a westward direction prior to the arrival of the westbound train. When he returned to Track No. 2 and resumed marking ties after the head end of the train passed on Track No.1, he began marking ties on the opposite rail that he had previously marked. He had marked the ties for replacement on the north rail and eight other ties on the south rail noting "300" with yellow paint at mile post 660.30. This reflected "300" ties marked in the mile from the point he began. This is believed to be the point of impact.

FRA's investigation revealed that UP had implemented an MOW Safety Audit Program. According to UP's records, Gang 9091 was audited 123 times between January 1, 2002 and June 6, 2002. Twelve of the Audits were Comprehensive Audits where managers spent the entire day with the gang; 84 were specific observations; and 27 dealt with safety activities. The audits resulted in nine exceptions being noted by the UP Managers.

FRA's investigation also revealed that the deceased, through 23 years of service with the Union Pacific, had served as Extra-Gang Machine Operator, Track boom Operator, System Laborer, etc. At the time of his death, he was serving as a System Laborer for Gang 9091. On Thursday, May 30, 2002, he had bumped into Distribution Gang 9092, which is a system gang under the jurisdiction of Tie Gangs North. After the fatally injured Laborer joined the latest gang, he worked under the direction of the Foreman and the uninjured Laborer for the first two days when they were out on the track. This was meant to familiarize him with the area and how the gang worked. He was released on Monday, June 3, 2002, to work as a lone worker, two days prior to his death.

The post-accident toxicological tests for drug and alcohol performed on the deceased were negative.

APPLICABLE RULES

Code of Federal Regulations Section 220.11, "Requirements for Roadway Workers."

b) On and after July 1, 1999, each employee designated by the employer to provide on-track safety for a roadway work group or groups, and each lone worker, shall be provided, and where practicable, shall maintain immediate access to a working radio. When immediate access to a working radio is not available, the employee responsible for on-track safety or lone worker shall be equipped with a radio capable of monitoring transmissions from train movements in the vicinity. A radio with fewer than 400,000 annual employee work hours may provide immediate access to working wireless communications as an alternative to a working radio.

Code of Federal Regulations Section 220.11, "On-Track Safety for Lone Workers."

c) (6) Individual train detection may be used to establish on-track safety only where the ability of the lone worker to hear and see approaching trains and other on-track equipment is not impaired by background noise, lights, precipitation, fog, passing trains, or any other physical conditions.

Union Pacific Railroad Safety Rule 1.12, "Alert and Attentive", provides that:

Employees must be careful to prevent injuring themselves or others. They must be alert and attentive when performing duties and plan their work to avoid injury.

Union Pacific Railroad Safety Rule 81.1.1, "Walking on or near Track" provides that:

Do not stand or sit on, walk fouling, or walk between rails of a track unless required by assigned duties.

When standing, walking, or working between or near tracks, keep a careful lookout in both directions, for trains, locomotives, cars, or other moving equipment and expect movement at any time, on any track, in either direction. Do not rely on hearing the approach of a train or equipment.

Foremen and others in charge of employees working on or about the tracks must require the employees to be alert and watchful and to keep out of danger.

Union Pacific Railroad Safety Rule 81.1.2, "Precautions Near Passing Trains or Equipment,"provides that:

When near passing trains or equipment:

Move away from the track to avoid being struck by car doors, protruding or falling articles.

Stand clear of all tracks when trains are approaching or passing in either direction. Do not stand on one track while trains are passing on an adjacent track.

Do not allow yourself or others to be next to or between equipment while a train or equipment is closely passing on the adjacent track.

Do not rely on others to notify you of an approaching train, engine. Or other equipment unless that person's duties include providing warnings.

Union Pacific (UP) Railroad Safety Rule 136.4.3, "Individual Train Detection,"provides that:

The lone worker's ability to hear and see approaching trains and equipment is not impaired by:

- Background noise
- Lights
- Inclement weather (rain, snow, fog, etc;)
- Passing trains
  Or
- Other physical conditions.